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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/646,869	08/25/2003	Kang-heuy Lee	1293.1837	1669
21171 7590 03/30/2007 STAAS & HALSEY LLP SUITE 700 1201 NEW YORK AVENUE, N.W. WASHINGTON, DC 20005			EXAMINER BODDIE, WILLIAM	
			ART UNIT	PAPER NUMBER
			2629	
SHORTENED STATUTORY PERIOD OF RESPONSE		MAIL DATE	DELIVERY MODE	
3 MONTHS		03/30/2007	PAPER	

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/646,869	LEE, KANG-HEUY	
	<b>Examiner</b>	<b>Art Unit</b>	
	William L. Boddie	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-6,8-17 and 19-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6,8-17 and 19-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____                                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date ____   | 6) <input type="checkbox"/> Other: ____                           |

### DETAILED ACTION

1. In an amendment dated, January 16<sup>th</sup>, 2007, the Applicant amended claims 1 and 21. Currently claims 1-6, 8-17, and 19-21 are pending.

#### ***Response to Amendment***

2. The amendment to the claims filed on January 16<sup>th</sup>, 2007 does not comply with the requirements of 37 CFR 1.121(c) because claim 1 contains amendments which are not properly marked. Amendments to the claims filed on or after July 30, 2003 must comply with 37 CFR 1.121(c) which states:

(c) *Claims*. Amendments to a claim must be made by rewriting the entire claim with all changes (e.g., additions and deletions) as indicated in this subsection, except when the claim is being canceled. Each amendment document that includes a change to an existing claim, cancellation of an existing claim or addition of a new claim, must include a complete listing of all claims ever presented, including the text of all pending and withdrawn claims, in the application. The claim listing, including the text of the claims, in the amendment document will serve to replace all prior versions of the claims, in the application. In the claim listing, the status of every claim must be indicated after its claim number by using one of the following identifiers in a parenthetical expression: (Original), (Currently amended), (Canceled), (Withdrawn), (Previously presented), (New), and (Not entered).

(2) *When claim text with markings is required*. All claims being currently amended in an amendment paper shall be presented in the claim listing, indicate a status of "currently amended," and be submitted with markings to indicate the changes that have been made relative to the immediate prior version of the claims. The text of any added subject matter must be shown by underlining the added text. The text of any deleted matter must be shown by strike-through except that double brackets placed before and after the deleted characters may be used to show deletion of five or fewer consecutive characters. The text of any deleted subject matter must be shown by being placed within double brackets if strike-through cannot be easily perceived. Only claims having the status of "currently amended," or "withdrawn" if also being amended, shall include markings. If a withdrawn claim is currently amended, its status in the claim listing may be identified as "withdrawn—currently amended."

3. Specifically, the word "controlling" in claim 1 is seen as being inserted into the claim during the most recent amendment, as such it should be underlined. Applicant is

requested to properly indicate this addition in a future correspondence. As this does not hamper the current examination, the claim will be examined under the assumption that the Applicant intended "controlling" to be entered into the claim.

***Response to Arguments***

4. Applicant's arguments with respect to claim 21 have been considered but are moot in view of the new ground(s) of rejection.

5. Applicant's arguments filed January 16<sup>th</sup>, 2007 have been fully considered but they are not persuasive.

6. On pages 7-8 of the Remarks, the Applicant argues that the present invention does not require a double-wide television set as required by Song.

The Applicant is pointed to the way in which Song and Ohyama are seen as being combined. As stated in the previous Office action and reiterated in the current action, it is seen as obvious to one of ordinary skill in the art to categorize the functions of Ohyama as additional or major as taught by Song. The on-screen display of Song is not incorporated into the combination. The only teaching from Song being incorporated into Ohyama is the categorizing that is performed by Song. Therefore the on-screen display of Song is irrelevant, as there is no teaching away from the proposed combination.

7. On pages 8-9, the Applicant argues that neither Song nor Ohyama bases the selections on the graphic-remote controller on additional function information of the image processing apparatus determined based on a frequency of use of the image

processing apparatus wherein additional function information stored in a memory unit is categorized as such based on the frequency of use of the information.

As noted by the Applicant, the Examiner has agreed that Ohyama does not disclose the above limitation. The Applicant also contends that Song does not disclose the limitation. As evidence the Applicant points to the abstract, as well as additionally notes that the exact word "frequency" is only mentioned once in Song.

The Examiner respectfully disagrees with the Applicant's position that Song does not disclose that additional functions are categorized as such due to their low frequency of use. As noted in the previous Office action Song is seen as sufficiently disclosing such a limitation.

While Song only uses the exact word "frequency" once, Song does state that "frequently used input keys" are operated under normal conditions; i.e. via the physical remote control (col. 2, lines 35-38). The logical extension of this is that the infrequently used input keys are accessed via the graphic remote control. This is seen as sufficiently disclosing the broadest reasonable interpretation of categorizing the additional function information based on their frequency of use.

8. In short, Song left the frequently used buttons on the physical remote (fig. 6a). The additional, less frequently used, functions were relegated to being displayed on the graphic remote control (fig. 6b). This satisfies the current limitations of the claims 1, 13 and 20, which are not anticipated by Ohyama. As such the rejection of claims 1-20 are seen as proper and are maintained.

***Claim Rejections - 35 USC § 103***

Art Unit: 2629

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1-6, 8-17 and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohyama et al. (US 5,751,373) in view of Song (US 5,691,778).

**With respect to claim 1**, Ohyama discloses, an apparatus for controlling functions of an image processing apparatus using a remote control (20-23 and 2 in fig. 1), the apparatus comprising:

a remote control signal receiver (13 in fig. 1) receiving a remote control signal output from the remote control (col. 5, lines 66-67);

a memory unit storing code information corresponding to the remote control signal and additional function information of the image processing apparatus (12 and 16-19 in fig. 1, col. 5, lines 61-65);

a controller controlling the additional function information stored in the memory unit to be displayed (11 in fig. 1, col. 5, lines 61-65) and controlling an additional function that is selected based on the displayed additional function information to be performed (col. 12, lines 61-67), if the remote control signal received via the remote control signal receiver is a signal for requesting the additional function information (23 in fig. 1; also see S1 and S2 in fig. 2A), and controls a function corresponding to a major function information to be performed if the remote control signal is the major function

Art Unit: 2629

information (col. 14, lines 43-49; discuss performing examples of major functions such as increasing/decreasing the volume/channel); and

a display unit (4 in fig. 1) displaying the additional function information controlled by the controller (clear from fig. 7, for example).

Ohyama does not expressly disclose that the additional function information stored in the memory unit is categorized as such based on the frequency of use of the information.

Song discloses, that the frequently used input keys (channel up/down, volume up/down, fig. 6a) can be used under normal conditions. However, when the graphic-remote controller key (additional information key) is operated numerous less frequently used functions (fast-rewind, multiple voice, see fig. 6b) are easily accessible to the user via interaction with the graphical interface on screen (col. 2, lines 35-45, also see fig. 6a-b).

Ohyama and Song are analogous art because they are both from the same field of endeavor namely, remote controls with access to on screen display controls.

At the time of the invention it would have been obvious to one of ordinary skill in the art to categorize the functions of Ohyama, as additional or major according to the frequency of use as taught by Song.

The motivation for doing so would have been to simplify the remote control interface and thus make it more convenient to use (Song, col. 2, lines 32-33).

Therefore it would have been obvious to combine Song with Ohyama for the benefit of a more convenient and simplified remote control to obtain the invention as specified in claim 1.

**With respect to claim 2**, Ohyama and Song disclose, the apparatus of claim 1 (see above)

Ohyama further discloses, comprising an on-screen-display (OSD) processor (5 in fig. 1), controlled by the controller (fig. 1, col. 5, lines 61-67), generating OSD data corresponding to the additional function information and outputting the OSD data to the display unit (OSD RGB signal in fig. 1, col. 8, lines 39-42).

**With respect to claim 3**, Ohyama and Song disclose, the apparatus of claim 2 (see above).

Ohyama further discloses, wherein the OSD data (OSD RGB signal in fig. 1, col. 8, lines 39-42) is processed by an existing OSD processing circuit (5 in fig. 1) in the image processing apparatus.

**With respect to claim 4**, Ohyama and Song disclose, the apparatus of claim 1 (see above).

Ohyama further discloses, wherein in response to the controller receiving a selection signal corresponding to desired additional function information (note step S9 in fig. 2C), the controller marks the desired additional function information selected among the displayed additional function information (note color changes and location of cursor that mark the additional information selected from fig. 7 to fig. 8).



**With respect to claim 5**, Ohyama and Song disclose, the apparatus of claim 4 (see above).

Ohyama further discloses, wherein the controller marks the desired additional function information selected by making the desired information darker or lighter than unselected additional function information (see figs. 6c and 7 for example).

**With respect to claim 6**, Ohyama and Song disclose, the apparatus of claim 4 (see above).

Ohyama further discloses, wherein the controller marks the desired additional function information selected by making the desired information a different color than unselected additional function information (see figs. 6c and 7 for example, a different shade, lighter or darker, is a different color).

**With respect to claim 8**, Ohyama and Song disclose, the apparatus of claim 1 (see above).

Ohyama further discloses, wherein the apparatus comprises an infrared ray receiving circuit (col. 15, lines 30-33).

**With respect to claim 9**, Ohyama and Song disclose, the apparatus of claim 8 (see above).

Ohyama further discloses, wherein the remote control comprises an infrared ray transmitting circuit (col. 15 lines 30-33, 101 and 207 in fig. 20).

**With respect to claim 10**, Ohyama and Song disclose, the apparatus of claim 1 (see above).

Ohyama further discloses, wherein the additional function information (for example fig. 14, hue, color, brightness) is modified without modifying the remote control (the display characteristics are altered without altering the remote, fig. 14).

**With respect to claim 11**, Ohyama discloses, the apparatus of claim 1 (see above).

Ohyama further discloses, further comprising directional keys provided on the remote control (20, 21 in fig. 1), with which a user selects from the displayed additional function information (col. 7, lines 45-56).

**With respect to claim 12**, Ohyama and Song disclose, the apparatus of claim 11 (see above).

Ohyama further discloses, further comprising a selection button (22 in fig. 1) provided along with the directional keys.

**With respect to claim 13**, Ohyama discloses, a method of controlling the functions of an image processing apparatus using a remote control, the method comprising:

parsing a received remote control signal received from the remote control (col. 15, lines 30-33);

displaying information for available additional functions on the image processing apparatus if the remote control signal contains a request for displaying information of additional functions (fig. 12 for example, also see S2 in fig. 2a);

performing a function (col.12, lines 61-67) of the image processing apparatus which corresponds to a selection signal in response to the selection signal being

Art Unit: 2629

received from the remote control while the additional function information is displayed;  
and

and performing a function of the image processing apparatus which corresponds to the received remote control signal if the remote control signal is not requested for displaying the information of additional function (col. 14, lines 43-49; discuss performing examples of major functions such as increasing/decreasing the volume/channel).

Ohyama does not expressly disclose that the additional function information stored in the memory unit is categorized as such based on the frequency of use of the information.

Song discloses, that the frequently used input keys (channel up/down, volume up/down, fig. 6a) can be used under normal conditions. However, when the graphic-remote controller key (additional information key) is operated numerous less frequently used functions (fast-rewind, multiple voice, see fig. 6b) are easily accessible to the user via interaction with the graphical interface on screen (col. 2, lines 35-45, also see fig. 6a-b).

At the time of the invention it would have been obvious to one of ordinary skill in the art to categorize the functions of Ohyama, as additional or major according to the frequency of use as taught by Song.

The motivation for doing so would have been to simplify the remote control interface and thus make it more convenient to use (Song, col. 2, lines 32-33).

Therefore it would have been obvious to combine Song with Ohyama for the benefit of a more convenient and simplified remote control to obtain the invention as specified in claim 13.

**With respect to claim 14**, Ohyama and Song disclose, the method of claim 13 (see above).

Ohyama further discloses, wherein the additional function information is displayed as OSD data (OSD RGB signal in fig. 1).

**With respect to claim 15**, Ohyama and Song disclose, the method of claim 13 (see above).

Ohyama further discloses, wherein in response to receiving position information for selecting desired additional function information among the additional function information displayed (16 in fig. 1 for example), a position for the selected additional function information is marked on the displayed additional function information so that a user can perceive the selected additional function information (note the highlighting that occurs when the cursor is placed in a different position from fig. 7 to fig. 8).

**With respect to claim 16**, Ohyama and Song disclose, the method of claim 15 (see above).

Ohyama further discloses, wherein the selected additional function information is marked by making it darker or lighter than remaining displayed additional function information (see highlighting in figs. 7 and 8 for example).

**With respect to claim 17**, Ohyama and Song disclose, the method of claim 15 (see above).

Ohyama further discloses, wherein the selected additional function information is marked by making it a different color than remaining displayed additional function information (see figs. 6c and 7 for example, a different shade, lighter or darker, is a different color).

**With respect to claim 19**, Ohyama and Song disclose, the method of claim 13 (see above).

Ohyama further discloses, wherein the parsing of the received remote control signal comprises differentiating between major functions and the available additional functions (S1 in fig. 2A, also col. 6, lines 49-53).

**With respect to claim 20**, Ohyama discloses, an image processing system comprising:

a remote control (fig. 17); a remote control signal receiver receiving a remote control signal output from the remote control (13 in fig. 1);

a memory unit storing code information corresponding to the remote control signal and additional function information of the image processing system (12, 16-18 in fig. 1; col. 5, lines 61-65);

a controller controlling the additional function information stored in the memory unit to be displayed and controlling an additional function that is selected based on the displayed additional function information to be performed (11 in fig. 1, col. 12, lines 61-67), if the remote control signal received via the remote control signal receiver is a signal for requesting the additional function information (23 in fig. 1; also see S1 and S2 in fig. 2A), and controls a function corresponding to a major function information to be

performed if the remote control signal is the major function information (col. 14, lines 43-49; discuss performing examples of major functions such as increasing/decreasing the volume/channel); and

a display unit displaying the additional function information controlled by the controller (4 in fig. 1, for example).

Ohyama does not expressly disclose that the additional function information stored in the memory unit is categorized as such based on the frequency of use of the information.

Song discloses, that the frequently used input keys (channel up/down, volume up/down, fig. 6a) can be used under normal conditions. However, when the graphic-remote controller key (additional information key) is operated numerous less frequently used functions (fast-rewind, multiple voice, see fig. 6b) are easily accessible to the user via interaction with the graphical interface on screen (col. 2, lines 35-45, also see fig. 6a-b).

At the time of the invention it would have been obvious to one of ordinary skill in the art to categorize the functions of Ohyama, as additional or major according to the frequency of use as taught by Song.

The motivation for doing so would have been to simplify the remote control interface and thus make it more convenient to use (Song, col. 2, lines 32-33).

Therefore it would have been obvious to combine Song with Ohyama for the benefit of a more convenient and simplified remote control to obtain the invention as specified in claim 20.

11. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ohyama et al. (US 5,751,373) in view of Chang et al. (US 2003/0090515).

**With respect to claim 21**, Ohyama discloses, an apparatus controlling functions of an image processing apparatus using a remote control, the apparatus comprising:

- a memory unit (12 and 16-19 in fig. 1) storing code information corresponding to a remote control signal from the remote control and additional function information of the image processing apparatus (col. 5, lines 61-65)

- a controller (11 in fig. 1),

- differentiating between major functions and additional functions in response to receiving a signal from the remote control (S1 in fig. 2a, also see col. 6, lines 49-53), and

- causing additional function information to be displayed (fig. 15 for example), and

- causing an additional function that is selected based on the displayed additional function information to be performed (col.12, lines 61-67), if a remote control signal received via the remote control is a signal for requesting the additional function information, and controls a function corresponding to a major function information to be performed if the remote control signal is the major function information (col. 14, lines 43-49; discuss performing examples of major functions such as increasing/decreasing the volume/channel); and

- a display unit (4 in fig. 1) displaying the additional function information controlled by the controller (col. 5, lines 61-67).

Ohyama does not expressly disclose that the additional function information stored in the memory unit is categorized as such based on the frequency of use of the information.

Chang discloses, an apparatus (fig. 1) controlling functions of an image processing apparatus using a remote control (36 in fig. 1), the apparatus comprising:

a memory unit (176 in fig. 2) storing information corresponding to additional function information (middle of para. 26) of the image processing apparatus determined based on a frequency of use of the image processing apparatus (paras. 44, 47, 50; also note figs. 3-4).

In short, Chang adapts the user interface based on how frequently certain features are used. If a feature is rarely used by the user, that feature is removed from the interface.

Ohyama and Chang are analogous art because they are both from the same field of endeavor namely, remote controls with access to on screen display controls

At the time of the invention it would have been obvious to continually update the user interface of Ohyama based on each functions frequency of use, as taught by Chang.

The motivation for doing so would have been to make operation of the device more user friendly, by lessening the number of functions thereby lessening confusion and intimidation of the user (Chang; para. 5).



***Conclusion***

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

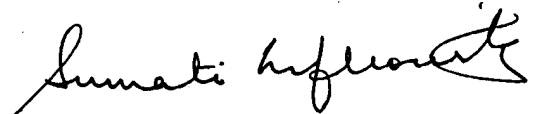
13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to William L. Boddie whose telephone number is (571) 272-0666. The examiner can normally be reached on Monday through Friday, 7:30 - 4:30 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sumati Lefkowitz can be reached on (571) 272-3638. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2629

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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3/27/07



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